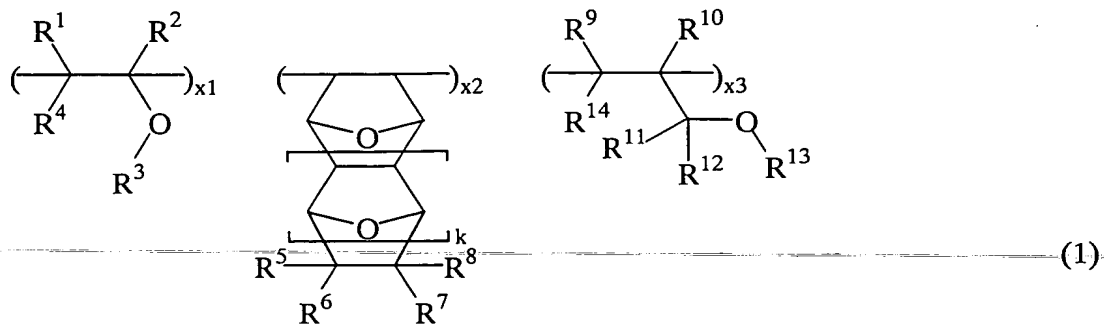


[illegible]

5 weight of 1,000 to 500,000,



atoms which may contain a hetero atom, a pair of  $R^{11}$  and  $R^{12}$ , a pair of  $R^{11}$  or  $R^{12}$  and  $R^{13}$ , a pair of  $R^{11}$  or  $R^{12}$  and  $R^{14}$ , or a pair of  $R^{13}$  and  $R^{14}$  may bond together to form a ring, wherein each pair represents a straight, branched or cyclic,

5 divalent hydrocarbon group of 1 to 15 carbon atoms which may contain a hetero atom,

$R^{15}$  is hydrogen, methyl or  $CH_2CO_2R^{17}$ ,

$R^{15'}$  is hydrogen, methyl or  $CH_2CO_2R^{17'}$ ,

$R^{15''}$  is hydrogen, methyl or  $CH_2CO_2R^{17''}$ ,

10  $R^{15'''}$  is hydrogen, methyl or  $CH_2CO_2R^{17'''}$ ,

$R^{16}$  is hydrogen, methyl or  $CO_2R^{17}$ ,

$R^{16'}$  is hydrogen, methyl or  $CO_2R^{17'}$ ,

$R^{16''}$  is hydrogen, methyl or  $CO_2R^{17''}$ ,

$R^{16'''}$  is hydrogen, methyl or  $CO_2R^{17'''}$ ,

15  $R^{17}$ ,  $R^{17'}$ ,  $R^{17''}$  and  $R^{17'''}$  may be identical or different between  $R^{15}$  and  $R^{16}$ , between  $R^{15'}$  and  $R^{16'}$ , between  $R^{15''}$  and  $R^{16''}$ , and between  $R^{15'''}$  and  $R^{16'''}$ , respectively, and each is a straight, branched or cyclic alkyl group of 1 to 15 carbon atoms,

20  $R^{18}$  is hydrogen or a monovalent hydrocarbon group of 1 to 15 carbon atoms containing a carboxyl or hydroxyl group,

$R^{19}$  is a monovalent hydrocarbon group of 2 to 15 carbon atoms containing at least one partial structure selected from the group consisting of ether, aldehyde, ketone, ester, 25 carbonate, acid anhydride, amide and imide,

$R^{20}$  is a polycyclic hydrocarbon group of 7 to 15 carbon atoms or an alkyl group containing a polycyclic hydrocarbon group,

$R^{21}$  is an acid labile group,

30  $k$  is 0 or 1,

$x_1$ ,  $x_2$ ,  $x_3$ ,  $a$ ,  $b$ ,  $c$  and  $d$  represent a molar compositional ratio of the recurring units associated therewith, satisfying  $x_1+x_2+x_3+a+b+c+d = 1$ ,  $x_1$ ,  $x_2$ ,  $x_3$ ,  $a$ ,  $b$  and  $c$  are numbers inclusive of 0,  $d$  is a number of more than 35 0, all of  $x_1$ ,  $x_2$  and  $x_3$  are not equal to 0 at the same time.

2. The polymer of claim 1 wherein the acid labile group represented by  $R^{21}$  in formula (1) is a tertiary alkyl group having a cyclic structure.

5 3. A resist composition comprising the polymer of claim 1.

4. A process for forming a resist pattern comprising the steps of:

applying the resist composition of claim 3 onto a  
10 substrate to form a coating,  
heat treating the coating and then exposing it to  
high-energy radiation or electron beam through a photo mask,  
and

optionally heat treating the exposed coating and  
15 developing it with a developer.

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